

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in this application. Added text is indicated by underlining, and deleted text is indicated by ~~striketrough~~. Changes are identified by a vertical bar in the margin.

Listing of Claims:

- 1 1. (currently amended) A storage system, comprising:
2 a host configured to receive a data file from a client, the host including a data
3 management rule set program that is operable to associate data management rule information to
4 the data file received from the client and determine how to protect and relocate the data file
5 wherein the data management rule information includes information for retention and relocation
6 of the data file and includes user-set data management rules for the data file;
7 a first storage subsystem configured to receive and store the data file from the
8 host, the storage system including a storage controller and a plurality of storage volumes,
9 wherein the data management rule information is stored in a header of the data file;
10 a data protection server including a data protection management program that
11 cooperates with the first storage subsystem to protect the data file stored in the first storage
12 subsystem in accordance with the data management rule information, the data protection server
13 looking up the data management rule information in the header of the data file to determine
14 action to protect the data file; and
15 a data relocation server that controls relocation of the data file from the first
16 storage subsystem to another storage subsystem in accordance with the data management rule
17 information.
- 1 2. (canceled)
- 1 3. (previously presented) The storage system of claim 1, wherein the data
2 management rule information relates to a retention period of the data file.

4. (previously presented) The storage system of claim 1, wherein the first storage subsystem further comprises a data protection program that cooperates with the data protection management program of the data protection server to protect the data file stored in the first storage subsystem, wherein the data management rule information is attached to the data file and transmitted to the first storage subsystem with a data content of the data file.

5. (previously presented) The storage system of claim 1, wherein the data relocation server includes a data relocation management program and a storage information table including information about storage subsystems and storage media associated with the storage system, wherein the data relocation management program initiates the relocation of the data file to a second storage volume to which the data file will be relocated by looking up the storage information table for a suitable storage location for the second storage volume.

6. (original) The storage system of claim 5, wherein the second storage volume is located in a second storage subsystem of the storage system.

7. (original) The storage system of claim 1, wherein the data relocation server and the host are different devices.

8. (original) The storage system of claim 1, wherein the data protection server and the host are different devices.

9. (previously presented) The storage system of claim 1, wherein the data management rule set program of the host inserts a plurality of management rules into the header of the data file, the management rules relating to information about a retention period and relocation instructions of the data file.

10. (currently amended) A management server provided in a storage system, the storage system including one or more hosts and one or more storage subsystems, the management server comprising:

4 a memory to store data;
5 a processor to process data;
6 a network interface to link with one or more computers of the storage system; and
7 a first management program to attach data management rule information to a data
8 file to be stored in a storage subsystem of the storage system, the data management rule
9 information relating to a retention period and to relocation information of the data file and
10 including user-set data management rules for the data file.
11 wherein the data file and the data management rule information are stored in a
12 storage volume of the storage subsystem;
13 wherein the data management rule information is inserted into a header of the data
14 file; and
15 wherein the management server includes a second management program that
16 cooperates with a file system to store the data file in the storage subsystem, the second
17 management program looking up the data management rule information inserted into the header
18 of the data file to determine action to take with respect to the data file.

1 11. (original) The server of claim 10, wherein the server is a host that is
2 configured to receive data files from a client of the storage system and send read and write
3 requests to the storage subsystem.

1 12. (previously presented) The server of claim 10, wherein the second
2 management program is a data protection management program or a data relocation management
3 program.

1 13. (currently amended) A management server provided in a storage system,
2 the storage system including one or more hosts and one or more storage subsystems, the
3 management server comprising: -
4 a memory to store data;
5 a processor to process data;
6 a network interface to link with one or more computers of the storage system; and

7 a first management program operable to access a header of a data file to look up
8 data management rule information inserted in the header and manage the data file according to
9 the data management rule information inserted in the header, the data management rule
10 information relating to a retention period and to relocation instructions of the data file, and
11 including user-set data management rules for the data file.

1 14. (original) The server of claim 13, wherein the server is a data protection
2 server and the first management program is a data protection management program.

1 15. (original) The server of claim 13, wherein the server is a data relocation
2 server and the first management program is a data relocation management program.

1 16. (currently amended) A method for managing a data file stored in a storage
2 system, the storage system including one or more client, one or more hosts, one or more storage
3 subsystems, the method comprising:

4 receiving a data file including a header and a data content;

5 attaching data management rule information to the data file;

6 storing the data file and the data management rule information at a first storage
7 location in a first storage subsystem, the data management rule information relating to retention
8 and to relocation information of the data file and including user-set data management rules for
9 the data file;

10 notifying a management program about the data file;

11 accessing the data management rule information attached to the data file; and

12 performing a management act relating to the data file according to the data
13 management rule information,

14 wherein the data management rule information is inserted into a header of the data
15 file.

1 17. (canceled)

1 18. (previously presented) The method of claim 16, wherein the data
2 management rule information is accessed by a data protection management program provided in
3 a data protection server, the management act being an act related to preventing the data file
4 stored in the first storage location from being modified or deleted.

1 19. (previously presented) The method of claim 16, wherein the data
2 management rule information is accessed by a data relocation server, and the management act
3 relates to relocating the data file to a second storage location.

1 20. (previously presented) The method of claim 16, wherein the data
2 management rule information is inserted into the header of the data file by a host.

1 21. (new) The storage system of claim 1, wherein the data management rule
2 information includes default rules for an application associated with the data file.

1 22. (new) The management server of claim 10, wherein the data management
2 rule information includes default rules for an application associated with the data file.

1 23. (new) The management server of claim 13, the data management rule
2 information includes default rules for an application associated with the data file.

1 24. (new) The method of claim 16, the data management rule information
2 includes default rules for an application associated with the data file.